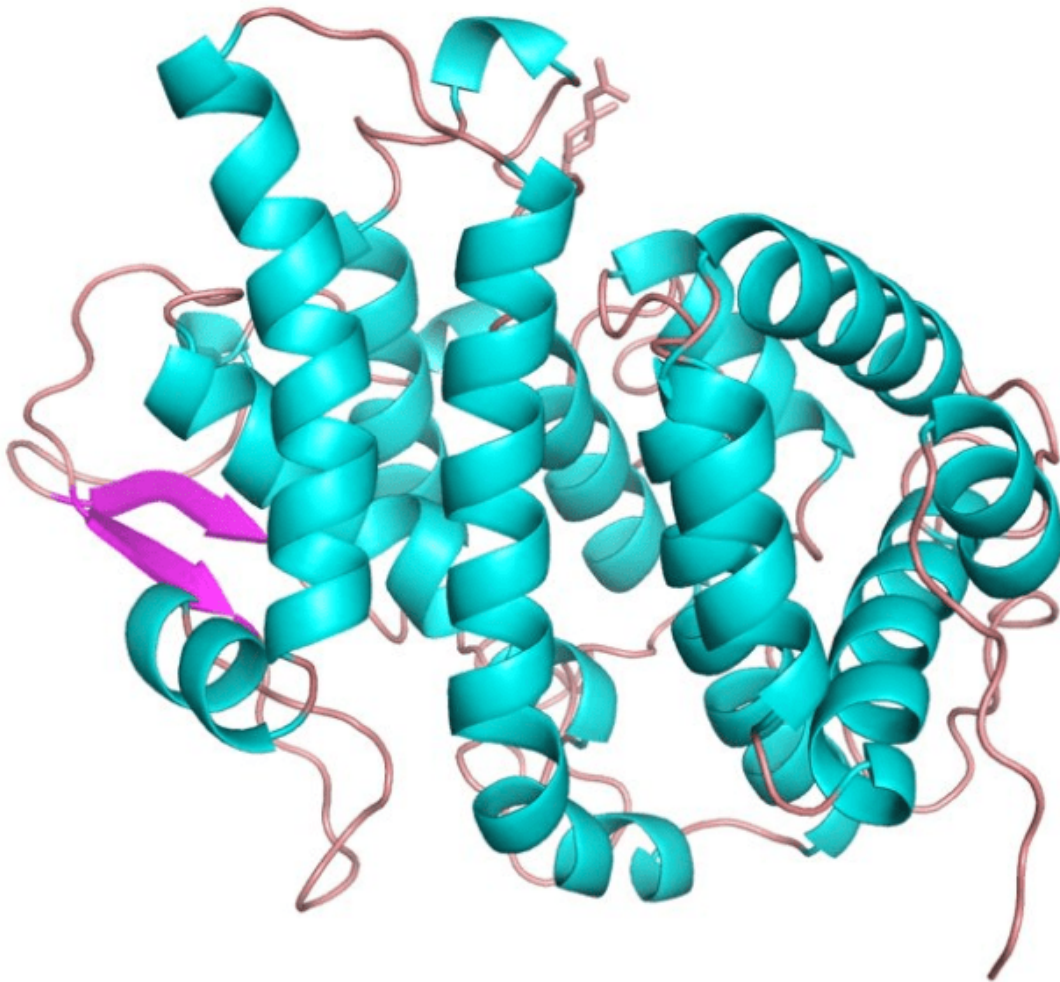


Platypus milk could be the antibacterial answer to stopping the super bug. [sg_popup id="39" event="onload"][/sg_popup] Researchers believe lives can be saved with the help of platypus milk. A new study led by scientists at Australia's CSIRO discovered the unique quality about platypus milk that makes it so effective against bacteria. The study, published in [Structural Biology Communications](#), used protein crystallization techniques pioneered at the CSIRO's Collaborative Crystallisation Centre, where researchers replicated the platypus milk protein, and deciphered its molecular structure in 3D to see where its antimicrobial properties come from.

"By taking a closer look at their milk, we've characterized a new protein that has unique antibacterial properties with the potential to save lives," says molecular biologist Janet Newman, who is a part of the research team.

They found a unique, never-before-seen protein fold, made up of differentiating ringlet structures. This build earned the protein the nickname "Shirley Temple"—after the distinctive golden curls of the American child star.



(CSIRO)

According to the study's results, this design might have evolved in the platypus' milk to help protect their young, who don't feed from teats—as the platypus have none—but from the milk expressed onto the mother's belly.

"This means the milk is expressed onto a milk pad where the pups lap it up and of course milk is designed to be nutritious, so anything that's in the environment could also use that milk," Newman explain.

The distinctive antimicrobial curls the protein formed may have been a defensive response against bacteria that could be attracted to the exposed milk, ensuring that the pups were fed, but not the bugs in the environment.

However, this is just a hypothesis, but thanks to this study, we now know about the remarkable molecular structure that might be replicated for antibiotic medications. This could provide a new means of fighting the growth of antibiotic resistance.

Now, switching over to the traditionally consumed cow's milk. Phenomenex analyzed for [polyfluorinated alkyl substances \(PFAS\)](#)—a group of synthetic fluorinated carbon polymers used on various commercial products, like fire-fighting foams, non-stick surfaces, and food packages—from milk, eggs, butter, cheese, and fish using QuEChERS, [SPE](#), and LC-MS/MS.

PFAS can be found globally in the environment, food products, and even human plasma. PFAS are associated with various adverse health effects, because they are bio-accumulative, which means they accumulate substances like pesticides.

The following technical note explores sample preparation techniques using a [QuEChERS extraction](#) for dairy and fish sample. Check it out here: [PFAS from Milk Analysis](#)

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Summary

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Article Name

Feeling a Little Under the Weather? Try Platypus Milk!

Description

Researchers have discovered a unique quality about platypus milk that makes it so effective against bacteria and possibly the answer to super bugs.